



8 to the  $i$ th access terminal;  
9 and  
10  $PS_i$  = the physical layer packet  
11 size corresponding to a  
12 maximum data transmission  
13 rate for the  $i$ th access  
14 terminal.

1 5. The method of claim 2, wherein the access point  
2 calculates the scheduling parameter for each of the forward  
3 communication links and access terminals as a function of the  
4 frame utilization, a maximum data transmission rate, and an  
5 average data transmission rate for the corresponding forward  
6 communication link and access terminal.

1 6. The method of claim 5, wherein the frame utilization  
2 is calculated as a function of a size of a data payload available  
3 to send to the corresponding access terminal and a size of the  
4 physical layer packet for the corresponding access terminal.

1 7. The method of claim 5, wherein the access point  
2 calculates the frame utilization  $U_{FRAMEi}$  for the  $i$ th forward  
3 communication link and access terminal using the following  
4 expression:

5 
$$U_{FRAMEi} = DPA_i / PS_i;$$

6 wherein  $DPA_i$  = the size of the data  
7 payload available to send  
8 to the  $i$ th access terminal;  
9 and  
10  $PS_i$  = the physical layer packet  
11 size corresponding to a  
12 maximum data transmission  
13 rate for the  $i$ th access  
14 terminal.

1        8.     The method of claim 1, wherein the access point  
2 calculates the scheduling parameter for each of the forward  
3 communication links and access terminals as a function of one or  
4 more weighting factors, a maximum data transmission rate, and an  
5 average data transmission rate for the corresponding forward  
6 communication link and access terminal.

1        9.     The method of claim 8, wherein the weighting factors  
2 are selected from the group consisting of:

- 3        a frame utilization for the corresponding forward  
4                communication link and access terminal; and  
5        a priority of the data to be transmitted to the  
6                corresponding access terminal.

1        10.    The method of claim 1, wherein the access point  
2 calculates the scheduling parameter for each of the forward  
3 communication links and access terminals as a function of a  
4 priority of the data to be sent to the corresponding access  
5 terminal.

1        11.    The method of claim 1, wherein the access point  
2 calculates a scheduling parameter  $P_i$  for an  $i$ th access terminal  
3 and forward communication link using the following expression:

4                                
$$P_i = (R_{MAXi} / R_{AVGi}) * U_{FRAMEi};$$

5        wherein      $P_i$                 =        the scheduling parameter for the  
6     $i$ th forward communication link  
7    for the corresponding  $i$ th access  
8    terminal;

9                                 $R_{MAXi}$         =        the maximum data transmission  
10    rate for the  $i$ th forward  
11    communication link for the  
12    corresponding  $i$ th access  
13    terminal;

14  $R_{AVGi}$  = the average data transmission  
15 rate for the  $i$ th forward  
16 communication link for the  $i$ th  
17 corresponding  $i$ th access  
18 terminal for a predetermined  
19 time period; and  
20  $U_{FRAMEi}$  = the frame utilization for the  $i$ th  
21 forward communication link for the  
22 corresponding  $i$ th access terminal.

1 12. The method of claim 11, wherein the access point  
2 calculates the frame utilization  $U_{FRAMEi}$  for the  $i$ th forward  
3 communication link and access terminal using the following  
4 expression:

5 
$$U_{FRAMEi} = DPA_i / PS_i;$$
  
6 wherein  $DPA_i$  = the size of the data  
7 payload available to send  
8 to the  $i$ th access terminal;  
9 and  
10  $PS_i$  = the physical layer packet  
11 size corresponding to  $R_{MAX1}$ .

1 13. A communications network, comprising:  
2 a plurality of access terminals; and  
3 an access point operably coupled to the access terminals by  
4 a plurality of corresponding forward communication  
5 links;  
6 wherein the access point is adapted to calculate a  
7 scheduling parameter for each of the forward  
8 communication links and access terminals as a function  
9 of a plurality of operating parameters; and

1        wherein the access point is adapted to schedule data for  
2                transmission to the access terminal having the largest  
3                scheduling parameter.

1           14. The communications network of claim 13, wherein the  
2 access point is adapted to calculate the scheduling parameter for  
3 each of the forward communication links and access terminals as a  
4 function of a frame utilization for the corresponding forward  
5 communication link and access terminal.

1           15. The communications network of claim 14, wherein the  
2 frame utilization is calculated as a function of a size of a data  
3 payload available to send to the corresponding access terminal  
4 and a size of the physical layer packet for the corresponding  
5 access terminal.

1           16. The communications network of claim 14, wherein the  
2 access point is adapted to calculate the frame utilization  $U_{\text{FRAME}i}$   
3 for the  $i$ th forward communication link and access terminal using  
4 the following expression:

$$U_{FRAMEi} = DPA_i / PS_i;$$

6	wherein	$DPA_i$	=	the size of the data
7				payload available to send
8				to the $i$ th access terminal;
9				and
10		$PS_i$	=	the physical layer packet
11				size corresponding to a
12				maximum data transmission
13				rate for the $i$ th access
14				terminal.

1           17. The communications network of claim 14, wherein the  
2   access point is adapted to calculate the scheduling parameter for  
3   each of the forward communication links and access terminals as a

4 function of the frame utilization, a maximum data transmission  
5 rate, and an average data transmission rate for the corresponding  
6 forward communication link and access terminal.

1 18. The communications network of claim 17, wherein the  
2 frame utilization is calculated as a function of a size of a data  
3 payload available to send to the corresponding access terminal  
4 and a size of the physical layer packet for the corresponding  
5 access terminal.

1 19. The communications network of claim 17, wherein the  
2 access point is adapted to calculate the frame utilization  $U_{FRAMEi}$   
3 for the  $i$ th forward communication link and access terminal using  
4 the following expression:

5 
$$U_{FRAMEi} = DPA_i / PS_i;$$

6 wherein  $DPA_i$  = the size of the data  
7 payload available to send  
8 to the  $i$ th access terminal;  
9 and  
10  $PS_i$  = the physical layer packet  
11 size corresponding to a  
12 maximum data transmission  
13 rate for the  $i$ th access  
14 terminal.

1 20. The communications network of claim 13, wherein the  
2 access point is adapted to calculate the scheduling parameter for  
3 each of the forward communication links and access terminals as a  
4 function of one or more weighting factors, a maximum data  
5 transmission rate, and an average data transmission rate for the  
6 corresponding forward communication link and access terminal.

1 21. The communications network of claim 20, wherein the  
2 weighting factors are selected from the group consisting of:

3       a frame utilization for the corresponding forward  
4       communication link and access terminal; and  
5       a priority of the data to be transmitted to the  
6       corresponding access terminal.

1           22. The communications network of claim 13, wherein the  
2 access point is adapted to calculate the scheduling parameter for  
3 each of the forward communication links and access terminals as a  
4 function of a priority of the data to be sent to the  
5 corresponding access terminal.

1           23. The communications network of claim 13, wherein the  
2 access point is adapted to calculate a scheduling parameter  $P_i$   
3 for an  $i$ th access terminal and forward communication link using  
4 the following expression:

$$P_i = (R_{MAXi} / R_{AVGi}) * U_{FRAMEi};$$

6            wherein     $P_i$             =            the scheduling parameter for the  
7    ith forward communication link  
8    for the corresponding ith access  
9    terminal;

10  $R_{MAXi}$  = the maximum data transmission  
11 rate for the  $i$ th forward  
12 communication link for the  
13 corresponding  $i$ th access  
14 terminal;

15  $R_{\text{AVG}_1}$  = the average data transmission  
16 rate for the  $i$ th forward  
17 communication link for the  $i$ th  
18 corresponding  $i$ th access  
19 terminal for a predetermined  
20 time period; and

21                     $U_{\text{FRAME}i}$  =        the frame utilization for the  $i$ th  
22                                        forward communication link for the  
23                                        corresponding  $i$ th access terminal.

1        24. The communications network of claim 23, wherein the  
2 access point is adapted to calculate the frame utilization  $U_{FRAMEi}$   
3 for the  $i$ th forward communication link and access terminal using  
4 the following expression:

$$U_{FRAMEi} = DPA_i / PS_i;$$

5  
6        wherein  $DPA_i$  = the size of the data  
7                                payload available to send  
8                                to the  $i$ th access terminal;  
9                                and  
10                               $PS_i$  = the physical layer packet  
11                                size corresponding to  $R_{MAX1}$ .

1        25. A computer program for scheduling the transmission of  
2 data from an access point to a plurality of access terminals  
3 serviced by the access point using the corresponding forward  
4 communication links between the access point and the access  
5 terminals in a CDMA/HDR communications network, comprising  
6 instructions for:

7        the access point calculating a scheduling parameter for  
8                each of the forward communication links and access  
9                terminals as a function of a plurality of operating  
10               parameters; and

11       the access point scheduling data for transmission to the  
12               access terminal having the largest scheduling  
13               parameter.

1        26. The computer program of claim 25, wherein the access  
2 point calculates the scheduling parameter for each of the forward  
3 communication links and access terminals as a function of a frame  
4 utilization for the corresponding forward communication link and  
5 access terminal.



1           27. The computer program of claim 26, wherein the frame  
2 utilization is calculated as a function of a size of a data  
3 payload available to send to the corresponding access terminal  
4 and a size of the physical layer packet for the corresponding  
5 access terminal.

1           28. The computer program of claim 26, wherein the access  
2 point calculates the frame utilization  $U_{FRAMEi}$  for the  $i$ th forward  
3 communication link and access terminal using the following  
4 expression:

$$U_{FRAMEi} = DPA_i / PS_i ;$$

6           wherein  $DPA_i$  = the size of the data  
7                                 payload available to send  
8                                 to the  $i$ th access terminal;  
9                                 and  
10                   $PS_1$  = the physical layer packet  
11                              size corresponding to a  
12                              maximum data transmission  
13                              rate for the  $i$ th access  
14                              terminal.

1        29. The computer program of claim 26, wherein the access  
2 point calculates the scheduling parameter for each of the forward  
3 communication links and access terminals as a function of the  
4 frame utilization, a maximum data transmission rate, and an  
5 average data transmission rate for the corresponding forward  
6 communication link and access terminal.

1           30. The computer program of claim 29, wherein the frame  
2 utilization is calculated as a function of a size of a data  
3 payload available to send to the corresponding access terminal  
4 and a size of the physical layer packet for the corresponding  
5 access terminal.

31. The computer program of claim 29, wherein the access point calculates the frame utilization  $U_{\text{FRAME}i}$  for the  $i$ th forward communication link and access terminal using the following expression:

$$U_{FRAMEi} = DPA_i / PS_i;$$

wherein  $DPA_i$  = the size of the data payload available to send to the  $i$ th access terminal; and

$PS_i$  = the physical layer packet size corresponding to a maximum data transmission rate for the  $i$ th access terminal.

32. The computer program of claim 25, wherein the access point calculates the scheduling parameter for each of the forward communication links and access terminals as a function of one or more weighting factors, a maximum data transmission rate, and an average data transmission rate for the corresponding forward communication link and access terminal.

33. The computer program of claim 32, wherein the weighting factors are selected from the group consisting of:  
a frame utilization for the corresponding forward communication link and access terminal; and  
a priority of the data to be transmitted to the corresponding access terminal.

34. The computer program of claim 25, wherein the access point calculates the scheduling parameter for each of the forward communication links and access terminals as a function of a priority of the data to be sent to the corresponding access terminal.

1        35. The computer program of claim 25, wherein the access  
2 point calculates a scheduling parameter  $P_i$  for an  $i$ th access  
3 terminal and forward communication link using the following  
4 expression:

$$P_i = (R_{MAXi} / R_{AVGi}) * U_{FRAMEi};$$

6        wherein  $P_i$  = the scheduling parameter for the  
7                                 $i$ th forward communication link  
8                                for the corresponding  $i$ th access  
9                                terminal;

10                    $R_{MAXi}$  = the maximum data transmission  
11                                rate for the  $i$ th forward  
12                                communication link for the  
13                                corresponding  $i$ th access  
14                                terminal;

15                    $R_{AVGi}$  = the average data transmission  
16                                rate for the  $i$ th forward  
17                                communication link for the  $i$ th  
18                                corresponding  $i$ th access  
19                                terminal for a predetermined  
20                                time period; and

21                    $U_{FRAMEi}$  = the frame utilization for the  $i$ th  
22                                forward communication link for the  
23                                corresponding  $i$ th access terminal.

1        36. The computer program of claim 35, wherein the access  
2 point calculates the frame utilization  $U_{FRAMEi}$  for the  $i$ th forward  
3 communication link and access terminal using the following  
4 expression:

$$U_{FRAMEi} = DPA_i / PS_i;$$

6        wherein  $DPA_i$  = the size of the data  
7                                payload available to send  
8                                to the  $i$ th access terminal;  
9                                and

PS<sub>1</sub> = the physical layer packet size corresponding to R<sub>MAX1</sub>.

1 37. A communications network, comprising:  
2 a plurality of access terminals;  
3 an access point operably coupled to the access terminals by  
4 a plurality of corresponding forward communication  
5 links;  
6 means for calculating a scheduling parameter for each of  
7 the forward communication links and access terminals  
8 as a function of a plurality of operating parameters;  
9 and  
10 means for scheduling data for transmission to the access  
11 terminal having the largest scheduling parameter.

1        38.    The communications network of claim 37, further  
2 comprising:  
3        means for calculating the scheduling parameter for each of  
4        the forward communication links and access terminals  
5        as a function of a frame utilization for the  
6        corresponding forward communication link and access  
7        terminal.

1           39. The communications network of claim 38, further  
2 comprising:  
3           means for calculating the frame utilization as a function  
4           of a size of a data payload available to send to the  
5           corresponding access terminal and a size of the  
6           physical layer packet for the corresponding access  
7           terminal.

1           40. The communications network of claim 38, further  
2 comprising:

3 means for calculating the frame utilization  $U_{FRAMEi}$  for the  
4 ith forward communication link and access terminal  
5 using the following expression:

6 
$$U_{FRAMEi} = DPA_i / PS_i;$$

7 wherein  $DPA_i$  = the size of the data  
8 payload available to send  
9 to the ith access terminal;  
10 and  
11  $PS_i$  = the physical layer packet  
12 size corresponding to a  
13 maximum data transmission  
14 rate for the ith access  
15 terminal.

1 41. The communications network of claim 38, further  
2 comprising: means for calculating the scheduling parameter  
3 for each of the forward communication links  
4 and access terminals as a function of the  
5 frame utilization, a maximum data  
6 transmission rate, and an average data  
7 transmission rate for the corresponding  
8 forward communication link and access  
9 terminal.

1 42. The communications network of claim 41, further  
2 comprising:  
3 means for calculating the frame utilization as a function  
4 of a size of a data payload available to send to the  
5 corresponding access terminal and a size of the  
6 physical layer packet for the corresponding access  
7 terminal.

1 43. The communications network of claim 41, further  
2 comprising:

3 means for calculating the frame utilization  $U_{FRAMEi}$  for the  
4 ith forward communication link and access terminal  
5 using the following expression:

6 
$$U_{FRAMEi} = DPA_i / PS_i;$$

7 wherein  $DPA_i$  = the size of the data  
8 payload available to send  
9 to the ith access terminal;  
10 and  
11  $PS_i$  = the physical layer packet  
12 size corresponding to a  
13 maximum data transmission  
14 rate for the ith access  
15 terminal.

1 44. The communications network of claim 37, further  
2 comprising:

3 means for calculating the scheduling parameter for each of  
4 the forward communication links and access terminals  
5 as a function of one or more weighting factors, a  
6 maximum data transmission rate, and an average data  
7 transmission rate for the corresponding forward  
8 communication link and access terminal.

1 45. The communications network of claim 44, wherein the  
2 weighting factors are selected from the group consisting of:  
3 a frame utilization for the corresponding forward  
4 communication link and access terminal; and  
5 a priority of the data to be transmitted to the  
6 corresponding access terminal.

1 46. The communications network of claim 37, further  
2 comprising:  
3 means for calculating the scheduling parameter for each of  
4 the forward communication links and access terminals

5 as a function of a priority of the data to be sent to  
6 the corresponding access terminal.

1 47. The communications network of claim 37, further  
2 comprising:  
3 means for calculating a scheduling parameter  $P_i$  for an  $i$ th  
4 access terminal and forward communication link using  
5 the following expression:

$$6 \quad P_i = (R_{MAXi} / R_{AVGi}) * U_{FRAMEi};$$

7 wherein  $P_i$  = the scheduling parameter for the  
8  $i$ th forward communication link  
9 for the corresponding  $i$ th access  
10 terminal;

11  $R_{MAXi}$  = the maximum data transmission  
12 rate for the  $i$ th forward  
13 communication link for the  
14 corresponding  $i$ th access  
15 terminal;

16  $R_{AVGi}$  = the average data transmission  
17 rate for the  $i$ th forward  
18 communication link for the  $i$ th  
19 corresponding  $i$ th access  
20 terminal for a predetermined  
21 time period; and

22  $U_{FRAMEi}$  = the frame utilization for the  $i$ th  
23 forward communication link for the  
24 corresponding  $i$ th access terminal.

1 48. The communications network of claim 47, further  
2 comprising:  
3 means for calculating the frame utilization  $U_{FRAMEi}$  for the  
4  $i$ th forward communication link and access terminal  
5 using the following expression:

$$6 \quad U_{FRAMEi} = DPA_i / PS_i;$$

